



COAXIAL

# High Power Amplifier

## ZHL-0G62G5030+ ZHL-0G62G5030X+

Mini-Circuits

50Ω 600 to 2500 MHz Broadband 30W SMA-Female

### KEY FEATURES

- Broadband, 600 to 2500 MHz
- High Gain, 51 dB typ.
- High P1dB, +45 dBm, typ.
- High OIP3, +52 dBm typ.

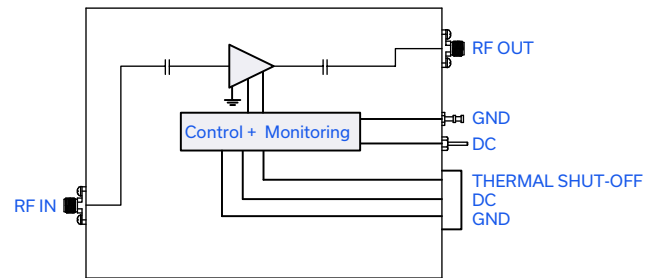


Generic photo used for illustration purposes only

### APPLICATIONS

- Communication Systems
- R&D, Production, and OTA Test Systems
- Test & Measurement Equipment
- General Laboratory Applications

### FUNCTIONAL DIAGRAM



### PRODUCT OVERVIEW

The ZHL-0G62G5030(X)+ is a high power broadband amplifier providing more than 30W of output power with a typical small signal gain of 51dB over the 600 to 2500 MHz frequency band. The amplifier uses state-of-the-art semiconductor technology and can be used in a wide range of applications. A single supply voltage ensures ease of operation. The amplifier is made with a rugged aluminum housing and can be supplied with or without a heatsink.

### ELECTRICAL SPECIFICATIONS AT T<sub>MOUNTING BASE</sub>=+25°C, V<sub>DC</sub>= +28V

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Frequency Range	f		600		2500	MHz
Small Signal Gain	G <sub>SS</sub>	P <sub>IN</sub> =-50dBm	45	51	55	dB
Small Signal Gain Flatness	G <sub>SS-FLAT</sub>	P <sub>IN</sub> =-50dBm		± 1.6	± 2.0	dB
Output Power at 1dB compression	P <sub>1dB</sub>	P <sub>OUT-REF</sub> =+25dBm	+43	+45		dBm
Output Power at 3dB compression	P <sub>3dB</sub>	P <sub>OUT-REF</sub> =+25dBm	+44	+47		dBm
Noise Figure	NF			7	10	dB
Output Third Order Intercept Point	OIP3	P <sub>OUT</sub> = +38dBm/tone		+52		dBm
Input Return Loss	I-RL		9.5	16		dB
Output Return Loss	O-RL		9.5	21		dB
DC Supply Voltage	V <sub>DC</sub>		27	28	29	V
Supply Current	I <sub>DC</sub>	Without fan @ P <sub>3dB</sub> With fan @ P <sub>3dB</sub>		4.9 5.3	6.0 6.4	A

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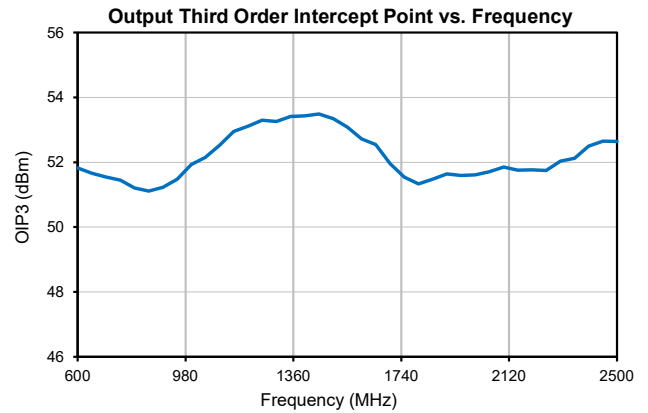
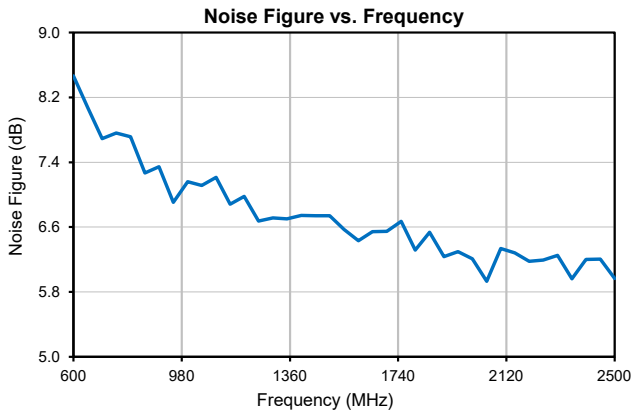
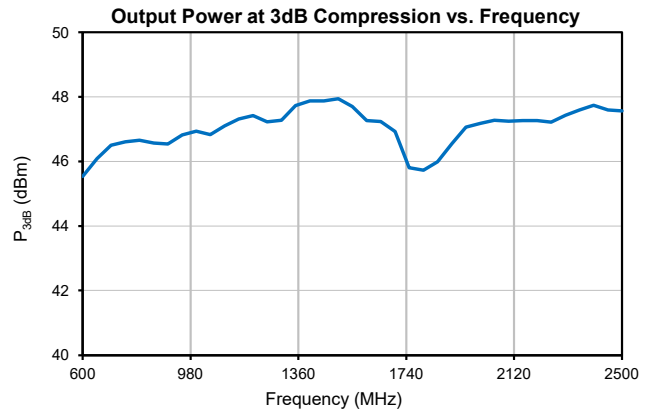
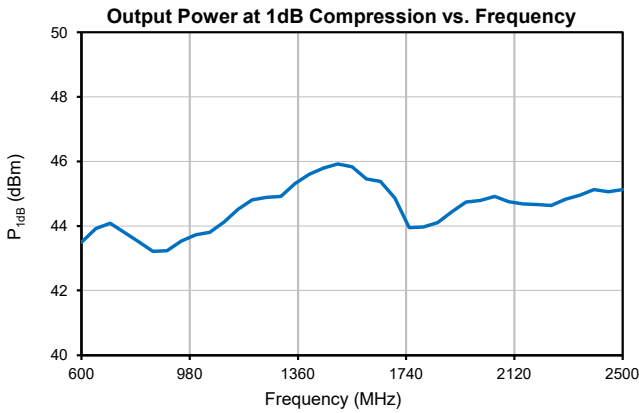
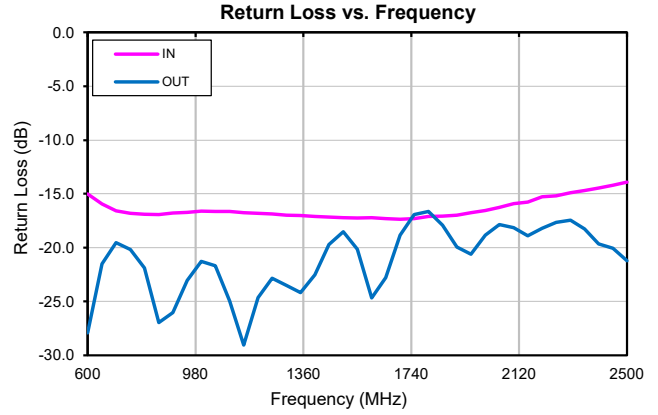
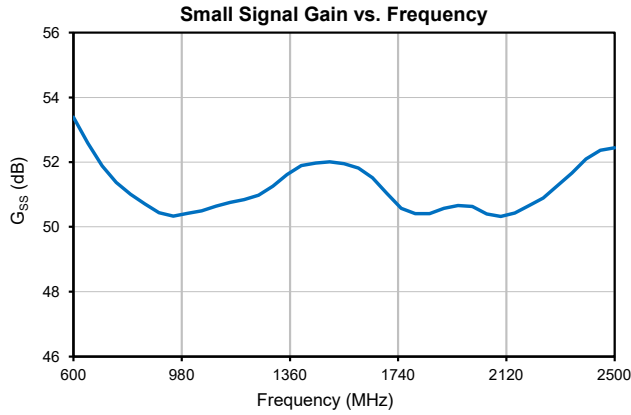
# High Power Amplifier

## ZHL-0G62G5030+ ZHL-0G62G5030X+

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50Ω 600 to 2500 MHz Broadband 30W SMA-Female

TYPICAL PERFORMANCE DATA AT  $T_{MOUNTINGBASE} = +25^{\circ}C$ ,  $V_{DC} = +28V$ , 50 OHM





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# High Power Amplifier

ZHL-0G62G5030+  
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## ABSOLUTE MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	ZHL-0G62G5030+ $T_{AMBIENT}$ : -20 °C to +60 °C
	ZHL-0G62G5030X+ $T_{MOUNTING\ BASE}$ : -20 °C to +80 °C
Storage Temperature	-55°C to +100°C
No damage with an open or short at $P_{3dB}$ for 2 hours	
RF Input Power (no damage)	0 dBm
DC Operating Voltage	± 29 V

Permanent damage may occur if any of these limits are exceeded.

## D-SUB MALE CONNECTOR PIN CONNECTIONS<sup>1</sup>

Pin Function	Label on unit	Pin #	Color	Gauge
None	N/C1, N/C2, N/C3 N/C4, N/C5	1,2,4,5	None	None
Thermal Shut-Off Indication Shut-Off: +2 to +5V Not Shut-Off: 0 to +0.8V	TTL Out	3	Orange	26 AWG
DC Input (+)	Vdc	6,7	Red	18 AWG
Ground	GND	8,9	Black	18 AWG

1. Each amplifier will come packaged with an additional D-Sub connector for mating with the amplifier

## DETERMINING MAXIMUM THERMAL RESISTANCE OF USERS' EXTERNAL HEAT SINK

$\text{MAXIMUM THERMAL RESISTANCE} = \frac{\text{MAXIMUM OPERATING CASE TEMP} - \text{MAXIMUM USER AMBIENT TEMP}}{\text{POWER DISSIPATION}}$
<b>Example:</b> MAXIMUM MOUNTING BASE TEMP = +80 °C (CHECK MAXIMUM RATINGS TABLE FOR THIS VALUE) MAXIMUM USER AMBIENT TEMP = +60 °C (USER DEFINED) POWER DISSIPATION = 144 WATTS (CHECK MAXIMUM RATINGS TABLE FOR THIS VALUE) THEN MAXIMUM ALLOWABLE THERMAL RESISTANCE = 0.14 °C/W





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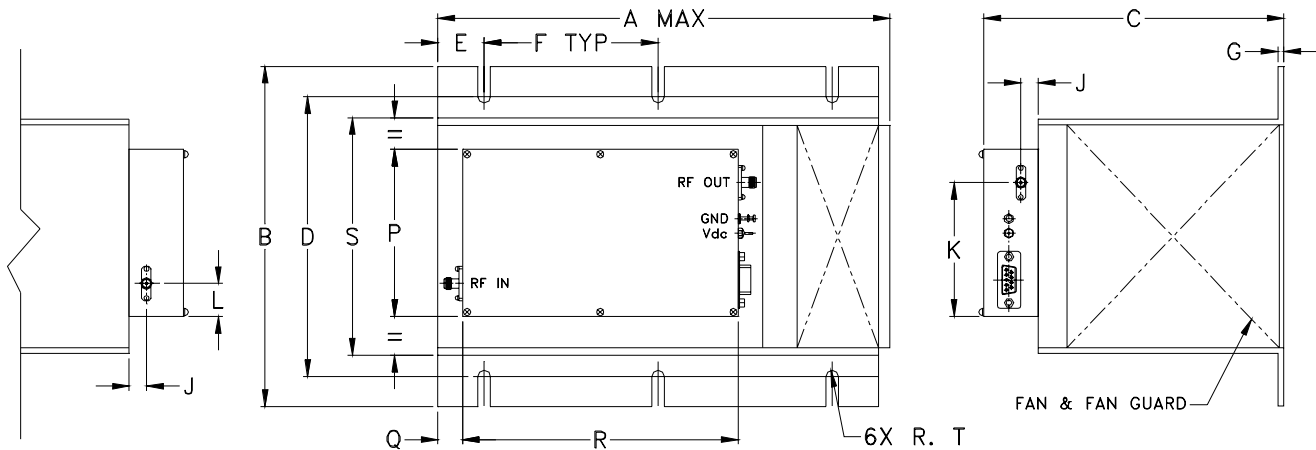
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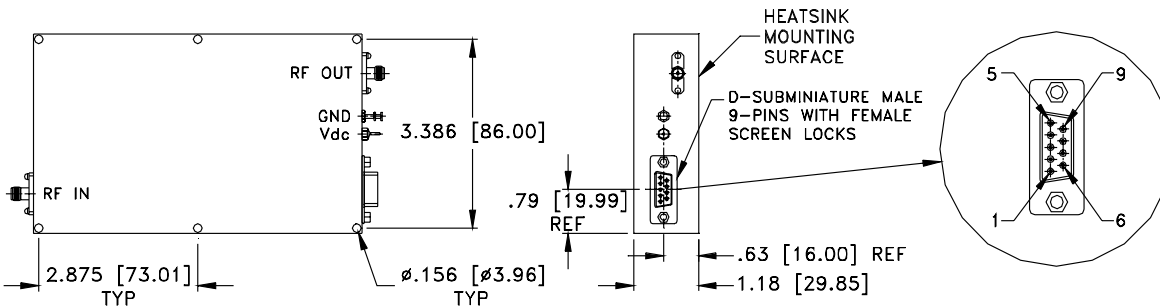
## COAXIAL CONNECTIONS

IN (RF IN)	SMA-Female
OUT (RF OUT)	SMA-Female

## CASE STYLE DRAWING WITH HEATSINK (ZHL-0G62G5030+)



## CASE STYLE DRAWING WITHOUT HEATSINK (ZHL-0G62G5030X+)



## OUTLINE DIMENSIONS (Inch/mm)

A	B	C	D	E	F	G	J	K	L	P	Q	R	S	T	wt
9.85	7.3	6.5	6.00	1.00	3.75	.13	.37	2.87	.71	3.58	.5	5.95	5.1	.135	grams*
250.19	185.42	165.10	152.40	25.40	95.25	3.30	9.40	72.90	18.03	90.93	12.70	151.13	129.54	3.43	4265

\*580 grams without heatsink





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**ADDITIONAL INFORMATION IS AVAILABLE ON OUR DASHBOARD.**

Performance Data	Table
	Graphs
	S-Parameter (S2P Files) Data Set (.zip file)
RoHs Status	Compliant
Environmental Ratings	ENV23T15

**ORDERING INFORMATION**

Model No. Links	<a href="#">ZHL-0G62G5030+</a>	<a href="#">ZHL-0G62G5030X+</a>
Option	With heatsink	Without heatsink
Product Marking	ZHL-0G62G5030+	ZHL-0G62G5030X+
Case Style	BT1344	
Connector	IN (SMA-Female) / OUT (SMA-Female)	

**NOTES**

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/terms/viewterm.html](http://www.minicircuits.com/terms/viewterm.html)



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